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EXAMINER

KADING, JOSHUA A

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/663,774

Applicant(s)

BJORKLUND ET AL.

Examiner

Joshua Kading

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>6</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

# Interview Summary

Application No.

09/663,774

Applicant(s)

BJORKLUND ET AL.

Examiner

Joshua Kading

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All participants (applicant, applicant's representative, PTO personnel):

(1) Joshua Kading.

(3) \_\_\_\_\_.

(2) Ruben Bains.

(4) \_\_\_\_\_.

Date of Interview: 13 April 2004.

Type: a) ☒ Telephonic b) ☐ Video Conference  
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1-31.

Identification of prior art discussed: none.

Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Examiner Kading discussed restriction of the claims, specifically claims 1-3 to Group I and claims 4-31 to Group II. Mr. Bains elected without traverse Group II (claims 4-31) for examination.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

\_\_\_\_\_  
Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

#### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

##### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

#### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-3, drawn to packet and circuit traffic routing, specifically Internet  
5 call routing, classified in class 370, subclass 352.
- II. Claims 4-31, drawn to communication over free space, classified in class  
370, subclass 335.

The inventions are distinct, each from the other because of the following reasons:

Group I discusses routing Internet Protocol (IP) information through a PSTN or  
10 circuit switched network so that an IP call connection can be established. In addition,  
since the call is established through an IP network to a PSTN, it is not necessarily  
established through a LAN -- that is to say the call is established over a plurality of  
networks. Group II discusses the use of a multi-tier base station system for use in a  
LAN. Specifically, two base stations are used to communicate with a wireless unit. Each  
15 base station operating using different communication protocols and further using  
different frequency hopping schemes to establish communication with the wireless unit.

Because these inventions are distinct for the reasons given above and have  
acquired a separate status in the art as shown by their different classification, restriction  
for examination purposes as indicated is proper.

20 Applicant is reminded that upon the cancellation of claims to a non-elected  
invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one  
or more of the currently named inventors is no longer an inventor of at least one claim

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remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

During a telephone interview with Ruben Bains on 13 April 2004 a provisional election was made without traverse to prosecute the claims of group II. Affirmation of this election must be made by applicant in replying to this Office Action. Group I claims are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

#### ***Oath/Declaration***

10 The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

15 The oath or declaration is defective because:  
Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Inventor Bridgelall has altered the declaration and not initialed nor dated the alterations.

#### ***Claim Objections***

20 Claims 4, 7, 12, 13, 15, 19, and 20 are objected to because of the following informalities:

Claim 4, lines 9 and 10 state "is of a higher speed and has a longer range that". This should be changed to --transmits at a higher speed and has a longer range than--.

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Claim 7, lines 11 and 12; and claim 15, line 20 state "the one or more discrete number of frequency channels that will not be used". There is no antecedent basis for frequency channels that will not be used. Therefore, this should be changed to --one or more discrete number of frequency channels that will not be used--.

5 Claim 12, line 2; claim 13, line 2; claim 19, line 2; and claim 20, line 2 state "channels that are not be used". This should be changed to --channels that are not being used--.

Appropriate correction is required.

10

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

15

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

20

Claims 26 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

25

Regarding claim 26, applicant discloses "the second communications protocol is used to determine the weight and contents of a vehicle while the vehicle is in motion". Since a communication protocol is used to standardize certain types of communications; how does a communication protocol determine a weight and contents

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of a vehicle? Applicant's specification is silent on how a communication protocol is used to determine the weight and contents of a vehicle. However, applicant does state "the following communications take place among vehicles:...rapid collection of information for weigh station purposes", which describes the weight data being collected by a weight station but not how a communications protocol is used to determine the weight.

Regarding claim 30, applicant discloses "the second communications protocol is used to determine the toll charged to a vehicle while the vehicle is in motion." Since a communication protocol is used to standardize certain types of communications; how does a communication protocol determine a toll to be charged to a vehicle in motion?

Applicant's specification is silent on how a communication protocol is used to determine the toll charged to a vehicle. However, applicant does state "the following communications take place among vehicles:...account information for toll booths", which describes account information being communicated to a toll booth but not how a communications protocol is used to determine the toll.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13, 20, 26, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 13 and 20, applicant states "the one or more discrete number of frequency channels that are not [being] used by the first communications protocol are



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the two frequency channels on either end of the frequency band." If there is one discrete frequency channel not being used, it is unclear how one frequency can turn into the two frequencies at the end of the frequency band? Is there one frequency or two?

Regarding claim 26, applicant discloses "the second communications protocol is  
5 used to determine the weight and contents of a vehicle while the vehicle is in motion". However, applicant's specification states "the following communications take place among vehicles:...rapid collection of information for weigh station purposes". The claim language is inconsistent with the specification. The specification does not disclose "the communications protocol determining the weight and contents of a vehicle while the  
10 vehicle is in motion." The specification simply states that the weight, and only the weight, is the only information collected from the communication to the weight stations. It is unclear where the determining of weight and contents comes from?

Regarding claim 30, applicant discloses "the second communications protocol is used to determine the toll charged to a vehicle while the vehicle is in motion". However,  
15 applicant's specification states "the following communications take place among vehicles:... account information for toll booths". The claim language is inconsistent with the specification. The specification does not disclose "the communications protocol determining the toll charged to a vehicle while the vehicle is in motion." The specification simply states that the account (not a toll charge) information is  
20 communicated from the vehicle to the toll booth. It is unclear where the determining of a toll charge comes from?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- 5 (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10 Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by Byrne (U.S. Patent 5,737,703).

Regarding claim 4, Byrne discloses “a multi-tier system for digital radio communication, comprising:

a first-tier base station comprising a first radio transceiver operating in  
15 accordance with a first communication protocol, the first-tier base station connected to a local area network (figure 1, element 130 acts as a first-tier base station and uses a cellular communication protocol);

a second-tier base station comprising a second radio transceiver operating in  
accordance with a second communication protocol independent of the first  
20 communication protocol (figure 1, element 114 acts as a second-tier base station and uses a cordless communication protocol);

a combination unit that is wirelessly connected to the first-tier base station  
through the first radio transceiver and wirelessly connected to the second-tier base  
station through the second radio transceiver (figure 1, element 200 which uses cellular  
25 and cordless communication protocols);

wherein the first communications protocol [transmits at] a higher speed and has a longer range than the second communications protocol (col. 5, lines 19-24 whereby having the first communication protocol operate at a higher frequency the speed will also be higher than that of the second protocol – for example as in figure 4 both

5 protocols can operate using 16 bits, however, both protocols operate at different frequencies so therefore the first protocol will operate at a higher speed (frequency X bits); col. 1, lines 58-67 and col. 2, lines 1-3 where it is clearly stated that the first communications protocol (cellular) has a longer or wider range than the second communications protocol).”

10

Claims 7, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Mahany (U.S. Patent 5,696,903).

Regarding claim 7, Mahany discloses “a method for coordinating communication, comprising:

15

transmitting via a first communications protocol using a wireless medium, wherein the first communications protocol utilizes frequency hopping to transmit a message over a discrete number of frequency channels within a frequency band (col. 4, lines 55-67 and col. 5, lines 1-3 where it is clearly suggested that there are a plurality of base stations each communicating using a different frequency hopping protocol);

20

transmitting via a second communications protocol to communicate using a wireless medium, wherein the second communications protocol utilizes frequency hopping to transmit a message over a discrete number of frequency channels within the

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frequency band, wherein the second communications protocol operates at a lower power level than the first communications protocol (col. 4, lines 55-67 and col. 5, lines 1-3 where it is clearly suggested that there are a plurality of base stations each communicating using a different frequency hopping protocol);

5 prior to the transmitting via the second communications protocol, coordinating with a transmitting device transmitting via the first communication protocol to determine the one or more discrete number of frequency channels that will not be used by the first communications protocol and coordinating the transmitting via the second communications protocol using only the one or more discrete number of frequency  
10 channels that are not used by the first communications protocol (col. 4, lines 55-67 and col. 5, lines 1-3 where it is clearly stated that neighboring base stations communicate with each other about there respective frequency hopping protocols)."

Regarding claim 11, Mahany discloses "the method as in claim 7, wherein the coordinating with a transmitting device transmitting via the first communication protocol  
15 is accomplished using an access point (figure 1C, where element 56 acts as the access point)."

Regarding claim 15, Byrne discloses "a system for wireless communication, comprising:

a first-tier base station comprising a first radio transceiver operating in  
20 accordance with a first communication protocol, the first-tier base station connected to a local area network (figure 1C, element 56 is a first-tier base station; col. 12, lines 38-44

describes that each base station uses its own communication protocol (or frequency hopping sequence));

a second-tier base station comprising a second radio transceiver operating in accordance with a second communication protocol independent of the first

5 communication protocol (figure 1C, element 57 is a second-tier base station; col. 12, lines 38-44 describes that each base station uses its own communication protocol (or frequency hopping sequence));

a first-tier remote unit wirelessly connected to the first-tier base station through the first radio transceiver (figure 1C, element 61 is a wireless unit that communicates to  
10 the first-tier base station);

a second-tier remote unit wirelessly connected to the second-tier base station through the second radio transceiver (figure 1C, element 63 is a wireless unit that communicates to the second-tier base station);

wherein the first-tier remote unit connects to the first-tier base station via a first  
15 communications protocol using a wireless medium, wherein the first communications protocol utilizes frequency hopping to transmit a message over a discrete number of frequency channels within a frequency band (figure 1C shows element 61 communicating with element 56; col. 12, lines 38-53);

wherein the second-tier remote unit connects to the second-tier base station via  
20 a second communications protocol using a wireless medium, wherein the second communications protocol utilizes frequency hopping to transmit a message over a discrete number of frequency channels within a frequency band, wherein the second

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communications protocol operates at a lower power level than the first communications protocol (figure 1C shows element 63 communicating with element 57; col. 12, lines 38-53);

and wherein the first-tier base station and the second-tier base station coordinate  
5 to determine one or more discrete number of frequency channels that will not be used  
by the first communications protocol and direct the second communications protocol to  
use only the one or more discrete number of frequency channels that are not used by  
the first communications protocol (col. 12, lines 38-44 whereby communicating the  
communication parameters to each other, the base stations are communicating their  
10 respective frequency hopping sequences)."

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
obviousness rejections set forth in this Office action:

15 (a) A patent may not be obtained though the invention is not identically disclosed or described as set  
forth in section 102 of this title, if the differences between the subject matter sought to be patented and  
the prior art are such that the subject matter as a whole would have been obvious at the time the  
invention was made to a person having ordinary skill in the art to which said subject matter pertains.  
20 Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byrne.

Regarding claim 6, Byrne discloses the system as in claim 4. However, Byrne  
specifically lacks "a plurality of wireless devices, each of which incorporates a  
25 second-tier base station." Although Byrne specifically lacks a plurality of wireless  
devices, each incorporating a second-tier base station, Byrne does disclose one

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wireless device incorporating a second-tier base station. It would have been obvious to include a plurality of wireless devices with the system of claim 4 because, as is known in the art, a system as the one in Byrne is not made for use by one and only one wireless unit. Wireless systems are made to handle communication involving a plurality of wireless devices. The motivation for including a plurality of wireless devices instead of one in a network is to make maximum use of the resources -- having only one wireless unit per network wastes money and available network resources.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byrne in view of Treyz et al. (U.S. Patent 6,526,335 B1).

Regarding claim 5, Byrne discloses the system of claim 4. However, Byrne lacks what Treyz discloses, that is "the combination unit includes ports for communicating via infrared wireless transmission, facsimile transmission, and transmission using a modem (figure 3, element 124 is for infrared (IR); col. 14, lines 3-13 where the combination unit (wireless unit) communicates with devices that offer the same function as a facsimile; col. 24, lines 56-60 where the combination unit again communicates with devices that offer communication to a network via a modem)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the communication via IR, fax, and modem with the system of claim 4 for the purpose of providing the user with more services (Treyz, col. 1, lines 65-67). The motivation being that offering more services to users increases the products marketability.

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Claims 8, 14, 16, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany in view of Lau et al. (U.S. Patent 6,690,657 B1).

Regarding claims 8 and 16, Mahany discloses the method of claim 7 and the system of claim 15. However, Mahany lacks what Lau discloses, that is "the frequency band is the 2.4 GHz ISM band (col. 1, lines 51-53)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the ISM 2.4 GHz band with the method of claim 7 and the system of claim 15 for the purpose of having an unlicensed band of frequencies to use in communication. The motivation being that this band is ideal for frequency hopping techniques because it is not used by any other commercial broadcast system (Lau, col. 1, lines 54-60).

Regarding claims 14 and 31, Mahany discloses the method of claim 7 and the system of claim 15. However, Mahany lacks what Lau discloses, that is "the first communication protocol is the IEEE 802.11 protocol (col. 2, lines 8-17)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the IEEE 802.11 protocol with the method of claim 7 and the system of claim 15 for the purpose of transmitting data wirelessly at a fast rate. The motivation being that a faster rate of transmission is always desirable with data communication.

Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany in view of applicant's admitted prior art (AAPA).

Regarding claims 9 and 17, Mahany discloses the method of claim 7 and system of claim 15. However, Mahany lacks what AAPA discloses, that is "the first



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communications protocol operates at a power level of about 100 mW (page 39, lines 17-18 of the specification states that the IEEE 802.11 standard, which is prior art, may transmit at 100 mW)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the 100 mW transmit power with the method of claim 7 and the system of claim 15 for the purpose of transmitting at a longer range. The motivation being that more power means transmitting through a longer range, which means a larger coverage area for communications.

Claims 10, 12, 13, 18, 19, 20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany.

Regarding claims 10 and 18, Mahany discloses the method of claim 7 and the system of claim 15. However, Mahany specifically lacks "the second communications protocol operates at a power level of about 1 mW." Although Mahany lacks the specific power level for the second communications protocol, it would have been obvious to one with ordinary skill in the art at the time of invention to include an exact operating power level with the method of claim 7 and the system of claim 15 as a matter of design choice. The motivation being that the operating power level of a communication device is entirely dependent on design requirements such as, circuit design, transmission range, etc.

Regarding claims 12 and 19, Mahany discloses the method of claim 7 and the system of claim 15. However, Mahany specifically lacks "the one or more discrete number of frequency channels that are not be used by the first communications protocol

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are frequency channels on either end of the frequency band." Although Mahany does not specifically disclose that the one or more discrete frequencies are at the end of the band, it would have been obvious to one with ordinary skill in the art at the time of invention to have the first communications protocol NOT use the frequencies at the end of the band as a matter of design choice. The reason being that in a frequency hopping scheme, to increase the hopping rate, all the frequencies in the scheme have to be close to each other so that the frequencies, when they hop, do not have to hop very far from their current frequency position. The motivation being that having the frequencies closer together allows for a faster more efficient hopping scheme.

Regarding claims 13 and 20 as understood at this time, Mahany discloses the method of claim 7 and the system of claim 15. However, Mahany specifically lacks "the one or more discrete number of frequency channels that are not be used by the first communications protocol are the two frequency channels on either end of the frequency band." Although Mahany does not specifically disclose that the one or more discrete frequencies are at the end of the band, it would have been obvious to one with ordinary skill in the art at the time of invention to have the first communications protocol NOT use the frequencies at the end of the band as a matter of design choice. The reason being that in a frequency hopping scheme, to increase the hopping rate, all the frequencies in the scheme have to be close to each other so that the frequencies, when they hop, do not have to hop very far from their current frequency position. The motivation being that having the frequencies closer together allows for a faster more efficient hopping scheme.

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Regarding claim 29, Mahany discloses the system of claim 15. However, Mahany specifically lacks "the second communications protocol is used to informing a prospective customer that a taxicab is available." Although Mahany specifically lacks informing a prospective customer that a taxicab is available, it is well known that

5 informing a prospective customer that a taxicab is available is a common practice in the taxicab industry. For example, a patron calls a taxicab company requesting a taxicab using the wireless unit in claim 15. Once the taxicab arrives, the patron is alerted by the taxicab company, through the wireless unit they originally called from, that the taxicab is ready. It would have been obvious to one with ordinary skill in the art at the time of

10 invention to include the informing a prospective customer of the available taxicab with the system of claim 15 for the purpose of letting the customer know the requested taxicab is ready. The motivation being that by alerting the customer, less time will be wasted waiting for taxicabs or customer to arrive.

15 Claims 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany in view of Smith (U.S. Patent 6,160,493).

Regarding claim 21, Mahany discloses the system of claim 15. However, Mahany lacks what Smith discloses, that is "the second communications protocol is used to communicate among at least two moving vehicles (col. 1, lines 44-57 where it the first

20 and second vehicle are communicating about collision avoidance)." It would have been obvious to include the communication between two moving vehicles with the system of

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claim 15 for the purpose of avoiding a traffic accident involving the moving vehicles. The motivation is to avoid vehicle or personal injury.

Regarding claim 25, Mahany discloses the system of claim 15. However, Mahany lacks what Smith discloses, that is "the second communications protocol is used among  
5 at least two vehicles to prevent collisions between the at least two vehicles (col. 1, lines 44-57 where it the first and second vehicle are communicating about collision avoidance)." It would have been obvious to include the communication between two moving vehicles with the system of claim 15 for the purpose of avoiding a traffic accident involving the moving vehicles. The motivation is to avoid vehicle or personal  
10 injury.

Claims 22-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany in view of Treyz et al.

Regarding claim 22, Mahany discloses the system of claim 15. However, Mahany  
15 lacks what Treyz discloses, that is "the second communications protocol is used to identify a vehicle using a database of vehicle information (col. 32, lines 32-51)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the vehicle identification with the system of claim 15 for the purpose of correctly associating a vehicle's owner with the correct vehicle. The motivation being that if the  
20 vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

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Regarding claim 23, Mahany discloses the system of claim 15. However, Mahany lacks what Treyz discloses, that is "the second communications protocol is used to identify the identity and location of a missing vehicle (col. 32, lines 32-57)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the vehicle identification and location with the system of claim 15 for the purpose of finding a vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

Regarding claim 24, Mahany discloses the system of claim 15. However, Mahany lacks what Treyz discloses, that is "the second communications protocol is used to obtain diagnostic information for a vehicle (col. 3, lines 46-49 where the diagnostic information is wirelessly communicated to a printer)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the diagnostic information with the system of claim 15 for the purpose of maintaining a record of the condition of the vehicle. The motivation being that when problems arise, they will be detected and dealt with promptly.

Regarding claim 27, Mahany discloses the system of claim 15, However, Mahany lacks what Treyz discloses, that is "the second communications protocol is used to transmit data about a fixed location to a vehicle (col. 32, lines 32-57)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the fixed location with the system of claim 15 for the purpose of finding a vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany in view of Pichey (U.S. Patent 4,017,825).

Regarding claim 28, Mahany discloses the system of claim 15. However, Mahany  
5 lacks what Pichey discloses, that is "the second communications protocol is used by a vehicle to control traffic control signals (col. 1, lines 27-37)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the control of traffic signals with the system of claim 15 for the purpose of stopping traffic in the intersection. The motivation being that the traffic must be stropped in the intersection so that the  
10 emergency vehicle can get through.

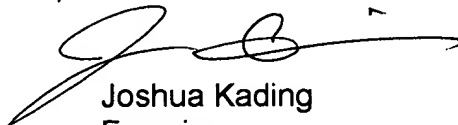
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

15 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Joshua Kading  
Examiner  
Art Unit 2661

5 April 23, 2004

  
**KENNETH VANDERPUYE**  
**PRIMARY EXAMINER**